

**We claim:**

1. An interface system for monitoring passive electrodes and driving active electrodes on an endocardial mapping catheter, the interface system comprising:
- a) a passive electrode interface adapted to monitor the passive electrodes;
  - b) an active electrode interface adapted to drive the active electrodes;
  - c) a computer interface adapted to allow computer monitoring of the passive electrodes and driving of the active electrodes.
  - d) a signal generator controlled by the computer interface, the signal generator electrically connected to the active electrode interface.
2. The interface system of claim 1, further comprising:
- e) a surface electrode interface adapted for electrical connection to surface electrodes; and
3. The interface system of claim 2, wherein the signal generator is further electrically connected to the surface electrode interface.
4. The interface system of claim 3, further comprising
- f) a therapy catheter interface adapted to electrically connect to electrodes on a therapy catheter.
5. The interface system of claim 4, wherein the therapy catheter interface is electrically connected to the computer interface through a signal conditioner.
6. The interface system of claim 4, wherein the therapy catheter interface further comprises a locator electrode interface, and the signal generator is electrically connected to the locator electrode interface.

7. The interface system of claim 4, further comprising:
  - g) an ECG subsystem in communication with the computer interface and the surface electrode interface.
8. The interface system of claim 1, further comprising
  - e) a therapy catheter interface adapted to electrically connect to electrodes on a therapy catheter.
9. The interface system of claim 8, wherein the therapy catheter interface further comprises a therapy electrode interface for delivering ablation energy to the therapy catheter.
10. The interface system of claim 9, wherein the passive electrode interface further comprises a signal conditioner having a high pass section and a low pass section.
11. The interface system of claim 6, wherein the passive electrode interface further comprises a signal conditioner having a high pass section and a low pass section.